

User Manual

H.264 Standalone DVR

ZMD-DT-SFN6

zmodo

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Chapter One Product Description

1.1 General Description

This equipment is designed specifically for the field of a number of digital security surveillance products, which uses an Embedded Processor Init (MPU) and operating systems, combined with the field of the latest IT technologies, such as video and audio encode/decode, high-capacity hard disk recorder, TCP / IP network technology, code in FLASH, making system operation more stable. This equipment, with digital video and audio recorder (DVR) and digital video and audio server (DVS) features at the same time, can works not only in local independently, but also be networked to form a powerful security monitoring network. It applies to bank, telecommunications, electric power, justice, transportation, residential area, factory, warehouses, water conservancy facilities and other areas and departments of the safety precautions.

1.2 Technical Parameters

Model	16-channel Full D1
Operation system	Embedded Linux
Main chip	H13531
System resource	16ch real time recording, network transmission, 8ch real time D1 playback
Operation interface	Friendly UI, support keys on front panel, mouse, remote controller
Video standard	PAL/NTSC
Image compression	H.264
Audio compression	ADPCM
Recoding mode	Manual, time, alarm, motion detection
Video search	Time, event, channel, log
Backup	network and USB
Video in	16BNC
Video out	1ch BNC, 1ch VGA, 1ch HDMI
Audio in	16 RCA
Audio out	1 RCA
Monitoring quality	PAL: 720x576 (D1) ; NTSC: 720x480 (D1)
Playback quality	PAL: 704x576 (D1) ; NTSC: 704x480 (D1)
Motion detection	256(16x16) area can be set in each channel, multilevel sensitivity can be set
Image display	1,4,9,12,16 image
Video speed	PAL: 25 frames/s (adjustable) NTSC: 30 frames/s (adjustable)
Video save	Hard drive and network
Local playback	8ch read-time D1 playback
Alarm in	4ch in (optional)
Alarm out	1ch out (optional)
PTZ	RS485
Hard drive	2 SATA
Network interface	RJ45/1000M self-adaptive Ethernet
USB interface	2 USB2.0 high speed interface
Power	DC 12V

1.3 Open Case and Connect Cables

1.3.1 open-case inspection

First of all, plz check if there is apperant damage of the packing as soon as you received the products.

The material can protect from the damage very well in the transportation.

Secondly, take out the product, and take away the protection film from the DVR to check if there is damage.

Thirdly, open case, check if there is any loose of data cable of front panel, power cable, connection between fan power and mother board

1. Front panel and rear panel

There are instructions of how to use keys on the front panel and the interfaces on rear panel.

Plz check the model no. with the one you ordered.

As for the labels on the panel, plz take good care of them, which are very important to our after-sale service.

You need to offer the model no. and serial no. during the after-sale service.

2. After open case, need to check

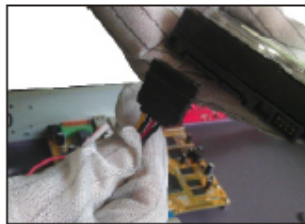
Besides checking obvious damage, also need to check if there is any loose of front panel data cable, connect between power and mother board

1.3.2 HDD Installation

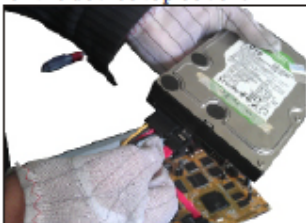
Plz make sure to install the HDD when you first use it.



1.Tear down the fixed screws of the device top cover .



2.Connect hard disk data line.



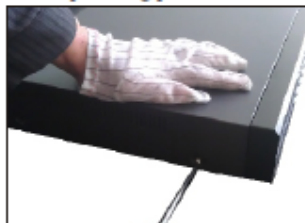
3.Connect hard disk power line



4.Put the hard disk in the corresponding place in machine.



5.Fix the screws of the hard disk.

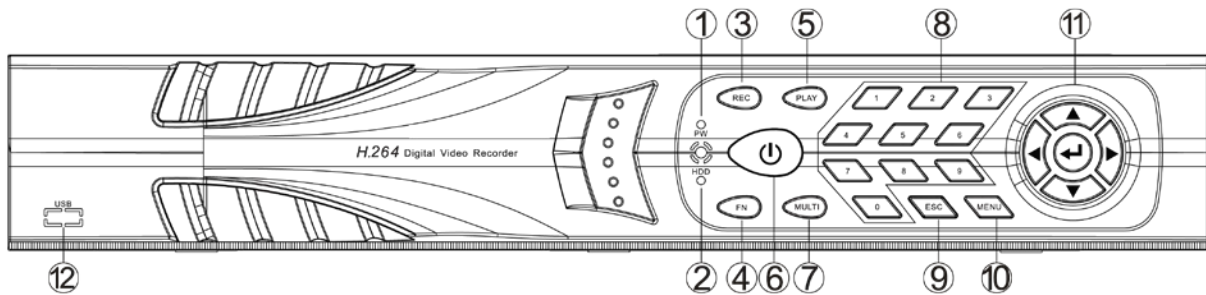


6.Fix the screws of the top cover .

Chapter Two: Structure Appearance Description

2.1 Panel Description

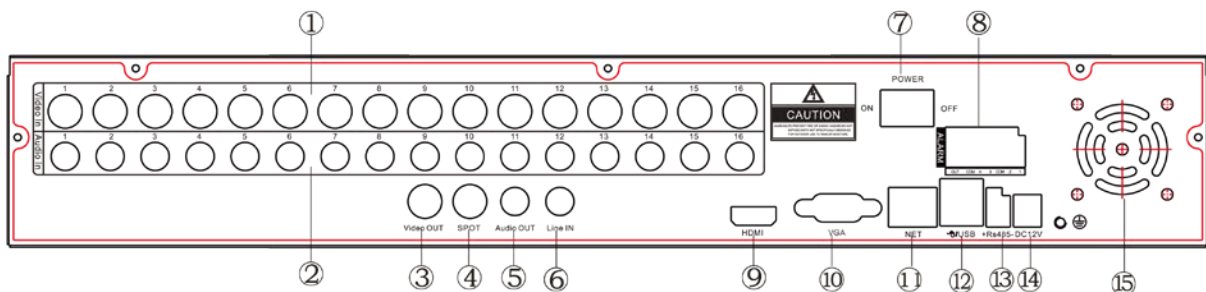
16 channel DVR Front Panel Description:



- | | |
|-----------------------------------|------------------------------------|
| 1. PW: Power Indicator Light | 7. MULTI: Multi-picture Key |
| 2. HDD: Hard Disk Indicator Light | 8. 0-9 Number Key |
| 3. REC: Recording Key | 9. ESC: ESC Key |
| 4. FN: Reserved | 10. MENU: Menu Key |
| 5. PLAY: Video Playback Key | 11. ▲▼◀▶ Direction Key ← Enter Key |
| 6. Power Key | 12. USB: Standard USB Interface |

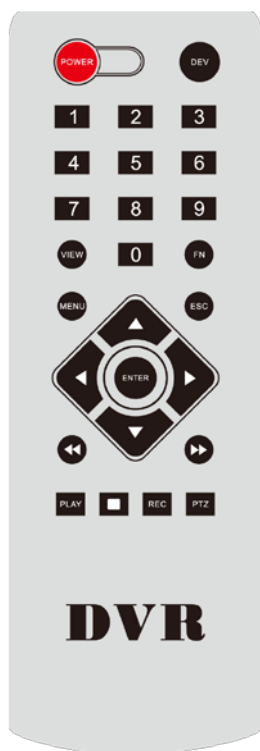
2.2 Product Interface Description

16 channel DVR Rear Panel Description:



- | | |
|--|---|
| 1. Video In: Video Input Interface 1-16 | 9. HDMI: High-Definition Multimedia Interface |
| 2. Audio In: Audio Input Interface 1-16 | 10. VGA: Video Output Interface |
| 3. Video Out: BNC Video Output Interface | 11. NET: Network |
| 4. Spot: Video Spot Output | 12. USB 2.0: Standard 2.0 USB Interface |
| 5. Audio Out: Audio Output Interface | 13. RS485: 485 Pan Tile Device Connector |
| 6. Line In: Talkback Interface | 14. DC 12V: 12V DC Power |
| 7. Power: Power Key | 15. FAN: Temperature Control and heat dissipation |
| 8. Alarm: Alarm Input / Output Interface | |

2.3 Remote Control Description



POWER	Power switch		
DEV	Device button: after press "DEV", input the same number as device number and press "ENTER" to save the setting. Then DVR can operated by remoter		
0-9	Number button		
MENU	Menu button; eliminate all the areas when set up motion detection area		
ESC	Exit		
▲	In menu mode: upwards; in PTZ mode: control the PTZ camera revolve upwards		
▼	In menu mode: downwards; in PTZ mode: control the PTZ camera revolve downwards		
◀	In menu mode: left; in PTZ mode, control the PTZ camera revolve left		
▶	In menu mode: right; in PTZ mode, control the PTZ camera revolve right		
ENTER	Select key	VIEW	Multi-screen key
PLAY	Video playback	◀◀	Fast rewind key
FN	Subsidiary key	▶▶	Fast Forward key
REC	Recording key	■	Pause key

Note: If many devices are in the same place, remote control should select a device according to device number. So each device needs a unique device number, unless remote control may effect to multi devices with the same number.

Chapter Three: Description of Operation System

3.1 Turn on / off

Confirm that AC voltage accessible matches with DVR .Ensure that the DVR power outlet connects with good middle ground grounding. After switching power, the device started, **【POWER】** light is on. Turn into system, if the panel status light flashing, it's normal conditions.

3.2 Preview

After device start, preview interface can be seen immediately. In the preview interface you can see the system date, time, channel name. Press corresponding number key of panel or click the left mouse button, user can preview the single channel; Press "QUAD" key in the panel or click the left mouse button, you can return to a multi-interface monitoring state.

3.3 Menu operation instructions

3.3.1 Enter menu mode

【MENU】 ,enter the device's main menu interface. **【PLAY】** shortcut keys for playback interface.

【REC】 shortcut keys for manual recording. **【PTZ】** shortcut keys for PTZ control.

Note: Default password is 111111, click "OK" can into menu directly.

3.3.2 Menu composition

Menu component units as following:

(1) Check box: two kinds of status available, "√" means valid, "□" means invalid , direction key: **【↑】** **【↓】** **【←】** **【→】** ,enter key **【↵】** . Also, click the left mouse button to choose.

For example: "channel" and "video mode" check box in the video research.

(2) Selection box: Select the target content according to the drop-down box options. Use **【↑】**, **【↓】** key or click the left mouse button to select.

For example: "channel" and "code stream" in the encode setup menu

(3) List Box: Displays the research information in the list, you can try one option for operation

For example: Press **【↵】** button in the video backup file. or the left mouse button.

(4) Edit box: Enter the name into edit box

For example: in the setup menu, you could input numbers, English letters, punctuation and so on in the "channel" edit box.

a) use panel key **【↑】** **【↓】** **【←】** , **【→】** or move the mouse to edit box , press "**↵**" key or click the left mouse button, then enter keyboard appears, select the desired input target characters through the arrow keys or click the left mouse button.

b) After input the information, click **【OK】** **【CANCEL】** button or button **【ESC】** can safe or exit

(5) Button: used to implement a specific function or enter the next setup menu, click **【OK /↵】** key and the left mouse button.

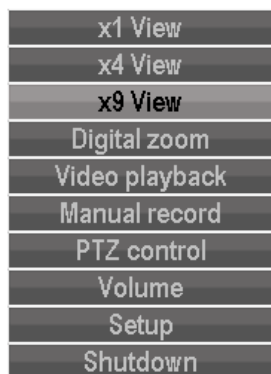
3.3.3 ESC MENU

Press **【MENU】** , **【ESC】** or the right mouse button to exit the menu mode

Click the right mouse button and return to the previous menu level.

3.4 Main Menu Introduction

Press MENU key or right mouse, it will pop-up the main menu. Main menu consists of the following three components

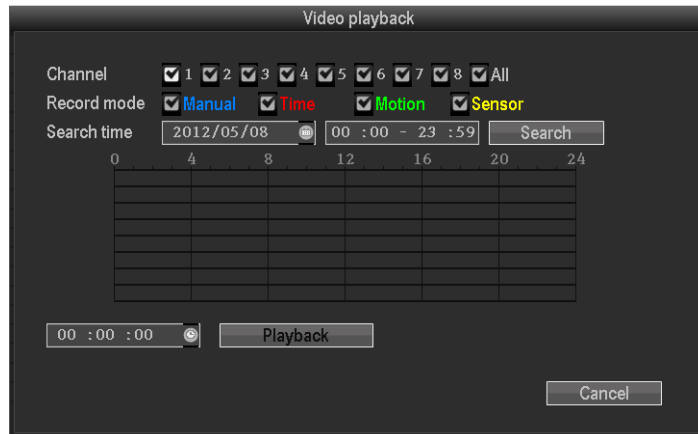


Preview mode: select corresponding preview mode in the menu column.

Shortcut menu: in menu column, there are: digital zoon, video playback, manual record, PTZ control, volume, setup, shut down. User could enter the corresponding menu preview mode.

Setup menu: including video playback, video backup, system setup, system tools, system info, and system logout.

3.5 Video Playback



Click "setup" menu and turn into "video playback" interface.

3.5.1 Video Search

Channel: Choose the target channel by clicking the check box. “” means selected, “” means non-selected

Record mode: Choose the recode mode by clicking the check box. “” means selected, “” means non-selected.

Search time: Input the Starting and finishing time into edit box

Search: After setup the above search condition, click "search" to begin the corresponding video file searching and show the files. Red means time recording, green means MD recording, yellow means sensor recording.

Playback: chose playback and turn into playback interface. In the search list box, choose the time bucket according up, down, left, right key or move the mouse. Click **←** or left mouse to enter "video playback "Interface

Cancel: Back to previous menu.


3.5.2 Playback toolbar

Select the playback file or time playback file, it will turn into video playback interface.

Playback toolbar: it will show below the playback interface. Each channel can magnify or narrow by clicking the left mouse.

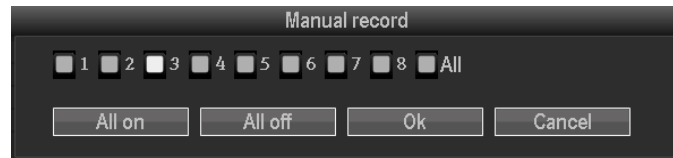
Stop play: click **Cancel** to stop the video and turn back to playback interface.

Pause/play: click  can pause the playback video; click  can continue the playback video.

Fast forward: click  can fast forward the video; also times fast forward the video by click the button again.

Exit playback: click “ESC” or  can exit the playback video; or exit until all file have been played.

3.6 Manual record



In the shortcut menu, click manual record or click **【REC】** to enter the setup the manual record interface.

Manual record menu illustration

Manual record menu include several parts:

Channel: “”means open; “”means close.

All on: start all channels.

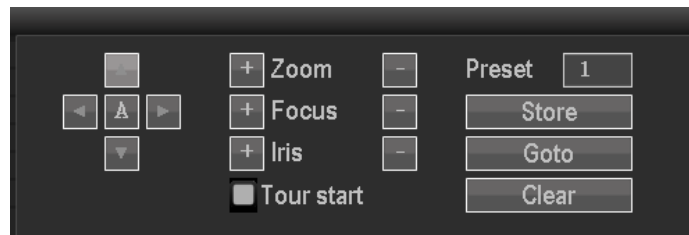
All off: close all channels.

OK: confirm and exit

Cancel: click cancel can exit the manual record interface and back to main menu.

Remarks: the video which start by manual must be turned off by manual, otherwise the recording will be always continue.

3.7 PTZ control



Choose the "PTZ control" from shortcut menu.

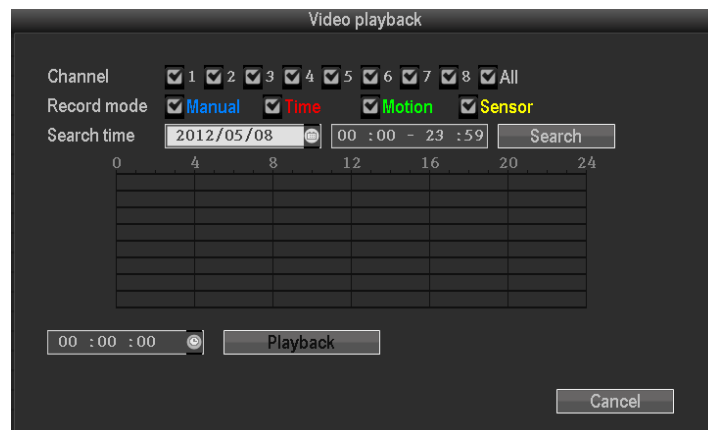
PTZ control menu including: direction control; auto pan scan; Zoom; focus; Iris; speed.

3.8 Setup

Click "Setup" in the shortcut menu, the first class menu including: video playback, video backup, system setup, system tools, system info, and system logout.

3.8.1 Video playback

That is the playback interface in shortcut menu; Pls ref.3.5 for the operation.



3.8.2 Video back up



Choose the channel, and record mode; setup the search time, then begin search the file. After choosing the needed file from list box, click backup and ok, wait for process bar until 100% and show backup success.

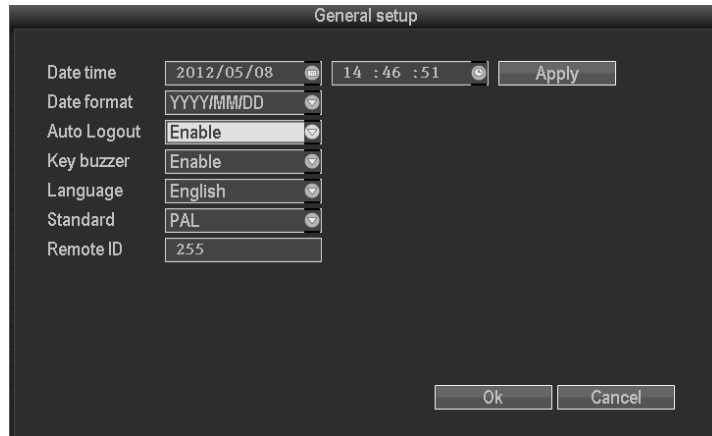
Note: USB driver pen must be FAT32 format when backup the file.

3.8.3 System setup



In the setup menu, Choose "system setup" and turn into its sub menu. It includes: General setup, Encode setup, Record setup, Network setup, Screen setup, Video detection, PTZ setup, Sensor setup.

3.8.3.1 General setup



Choose the "General setup" and turn into its setup interface.

Time: DVR preview time. Click “refreshes” after setting, it will pop out “the recording will stop once you modify the time”, and save the setting.

Date Format:: Y/M/D”, “D/M/Y”, “M/D/Y”.

Auto Logout: : DVR will log off if there is no operation within 10 minutes, it needs login again.

Key Buzzer: Enable: there is sound with the controller or pressing key on front panel; Disable: without sound.

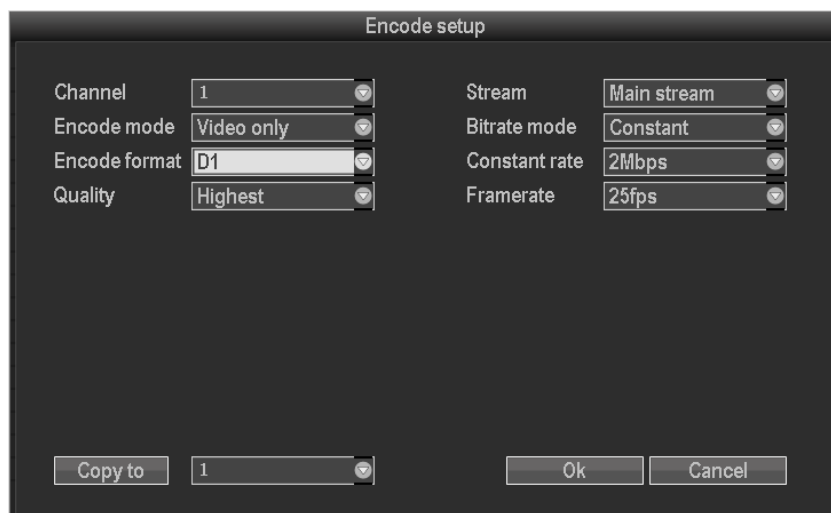
Language: There are multiple choices according to users, Chinese and English and so on.

Video Standard: PAL and NTSC are all available.

DVR ID: user can use this ID to control the DVR by remoter controller. The remote controller should be correspond with the ID so that it can work. (Please refer to the instruction in 2.3)

After setting finished, click "ok", the information will be saved. Click "cancel" to exit without saving.

3.8.3.2 Encode setup



Select “encode setup” in system setup.

Channel: choose the right CH you need by clicking the select box.

Stream: choose the right stream you need: "main stream" or "sub stream".

Encode mode: choose the right encode model you need: "video only "means only encoding for video;

"AV combined" means encoding for both video and audio.

Bitrate mode: choose the right bitrate mode you need: "constant bitrate" means system encoding video as user-defined bitrate and frame rate. "Variable bitrate" means system encoding according to user-defined image quality and video frame rate, but bit rate is automatically adjusted by the system depending on the video screen. "Average bitrate" means system automatically adjusted fluctuation as user-defined bitrate.

Encode format: which also called the image resolution: (QCIF) 176*144、 (CIF) 352*288 (HD1)576*288 (D1) 704*576, users can choose what they need.

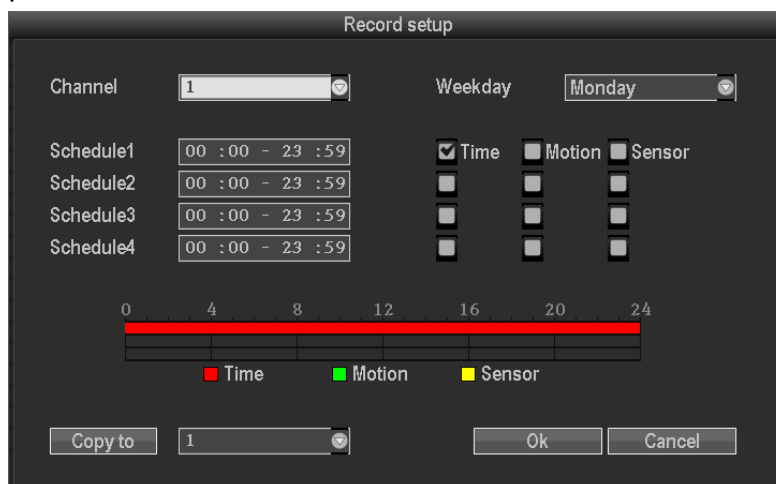
Bitrate: users select the encoding bitrate as needed. The higher bitrate, the better image but with large disk space

Image quality: image quality fluctuations, user identified.

Frame rate: users select the video frame rate as needed. The higher frame rate, the better image but with large disk space

Copy to: select the target channel on the right of "copy to" button ,click "copy to" & "ok " then system will set the current channel setup information to other target video channel. Click button "cancel", the setup information will not saved and exit.

3.8.3.3 Recode setup



Select "Record setup" in system setup.

Channel: choose the target channel by clicking the select box

Weekday: choose the corresponding day as user's need, "ALL" means record all date.

Recording mode and time: in the time edit box, user can set different time with different recoding mode. "Time": in red color, "Motion": in green color, "Sensor": in yellow color ; means selected, means invalid. There is times status display which 0~24 hours for whole schedule.

Copy to: select the target channel on the right of "copy to" button ,click "copy to" & "ok " then system will set the current channel setup information to other target video channel. Click button "cancel", the setup information is non-saved but to exit.

3.8.3.4 Network setup

Option	Value
<input type="checkbox"/> DHCP	
IP address	192.168.1.114
Gateway	192.168.1.1
Web port	80
Data port	8880
<input checked="" type="checkbox"/> ESee	--
Subnet mask	255.255.255.0
MAC address	0005-FE19-2B80
Preferred DNS	192.168.1.1
Alternate DNS	0.0.0.0

UPNP is initializing.

Buttons: PPPoE, DDNS, Ok, Cancel

Select "network setup" from "system setup" menu.

MAC address: device's MAC address.

DHCP: select DHCP to get IP automatically. "" means works ; "" means non-work

IP address: the IP address must be unique and cannot be in conflict with the host or work station which on the same network segment.

Subnet Mask: use for distinguish the network segment.

Gateway: need to set the gateway address to achieve communication between the different network segments.

DNS address: after accessing network by connecting with PPPOE protocol, it can gain a dynamic IP address.

Web port: this port number is used for IE browser visit; default port is "80".

Data port: this port number is used for device and mobile visit; suggest to set the port above 2000.

ESee: after connecting internet, click "Esee" and save the setting, user will get an Esee ID. You can remote DVR with this ID by www.e-seenet.com. It's free DDNS, no need to apply the domain name from any server.

PPPOE configuration:

Start using: "PPPOE" means to start up dial-up by PPPOE protocol. "" means stop it.

PPPOE user: input the user name of ISP into edit box.

PPPOE password: input the password of ISP into edit box.

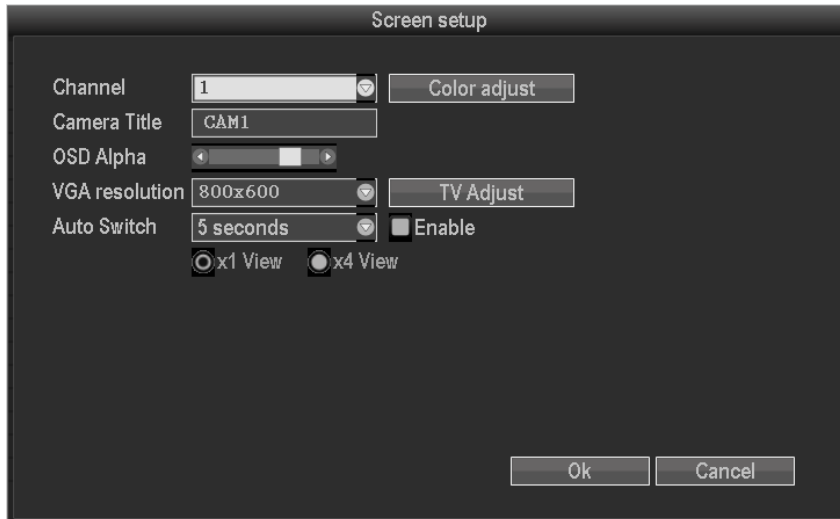
After the page setup is completed, click "OK" to save the changes and exit; click "cancel", to exit the setting.

DDNS: The automatic analytic function of dynamic domain name, it could supported 3322 and DYNDNS.ect.

In the "network setup" menu, click "DDNS" to enter its setup interface.

Start using: "" means DDNS service start using; "" means stop using. Select the corresponding network server and input user name, password and domain name (Pls refer to 3.3.2(4)) .

3.8.3.5 Screen setup



Select "screen setup" from "system setup" menu

Channel: chose the target channel by clicking select box.

Camera title: user can edit the channel title from the edit box. "☑" means display channel title, "☐" means non-display.

OSD Alpha: user can adjusted the OSD menu transparency as needed.

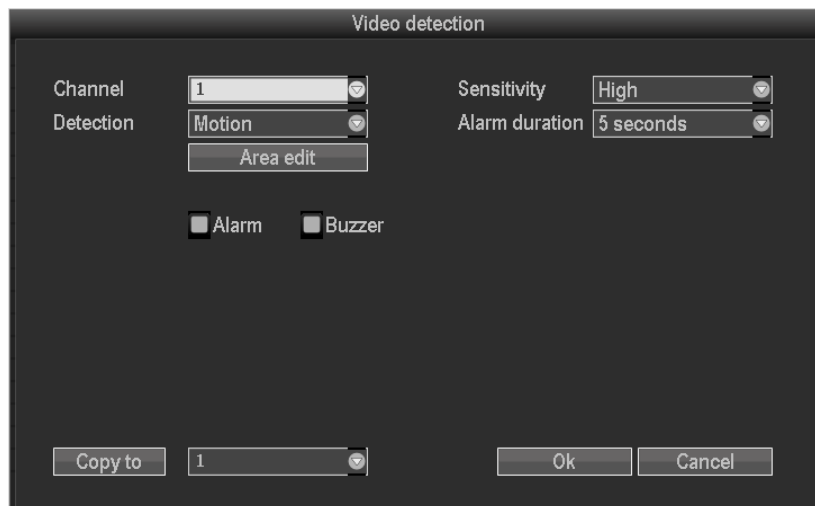
OSD time: "☑" display system time, "☐" non- display;

Auto Switch: user can setup the time of auto switching for preview image, it switches in single screen or 4 Channels screen.

Start using: "☑" start using, "☐" stop using.

After the setup is completed, click "OK " to save the changes and exit; click "cancel" to exit the setting.

3.8.3.6 Video detection



Select" video detection" from "system setup" menu:

Channel: chose the target channel by clicking select box

Sensitivity: chose the sensitivity level of motion detection.

Detection: select detection type: motion, video loss, and video cover.

Alarm duration: the alarm duration for after chose the trigger video detection.

Area edit: setup the motion detection area by dragging left of mouse.

Alarm: "☑" means start, "☐" means stop.

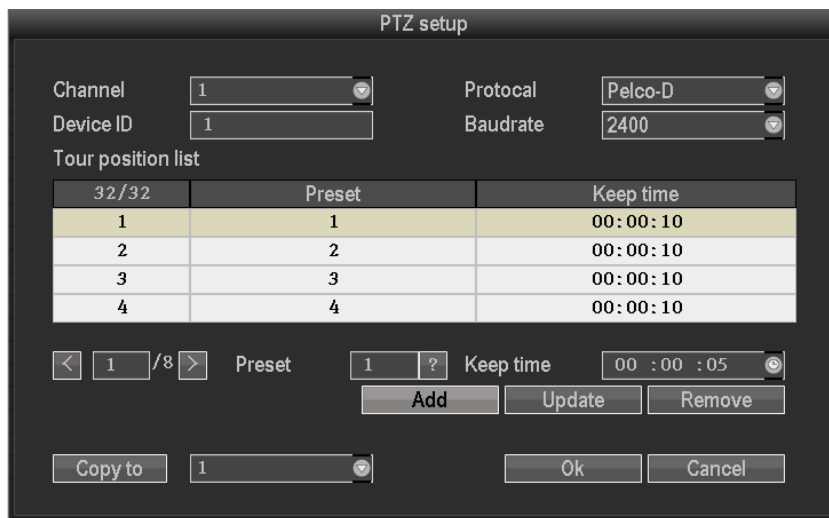
Buzzer: "☑" means start, "☐" means stop.

E-Mail notice: "☑" means E-Mail valid, "☐" means E-Mail invalid.



Copy to: select the channel and click "copy to" & "ok " to copy the same setting to other channel. Or user can choose copy to "all" to make all channel in same stetting . Click button "cancel", the setup information will be non-saved but exit.

3.8.3.7 PTZ setup



Select "PTZ setup" from "system setup" menu

Channel: chose the target channel by clicking select box

Protocol: support Pelco-D and Pelco-P. Select the same protocol as PTZ.

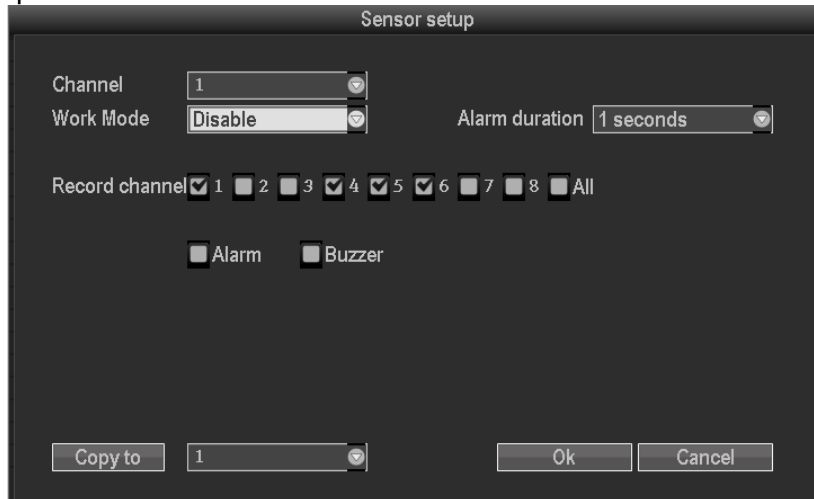
Device ID: choose the matched one of the PTZ

Parity check: choose the matched one of the PTZ



Copy to: select the channel and click "copy to" & "ok " to copy the same setting to other channel. Or user can choose copy to "all" to make all channel in same stetting. Click button "cancel", the setup information will be non-saved but exit.

3.8.3 8 Sensor setup



In "system setup" menu, choose "PTZ setup" to enter its setting interface.

Channel: chose the target channel by clicking select box.

Work mode: select disable or able to stop the alarm or start the alarm.

Alarm duration: set up alarm duration time.

Recording channel: select the target channel to make recording after alarm is triggered.

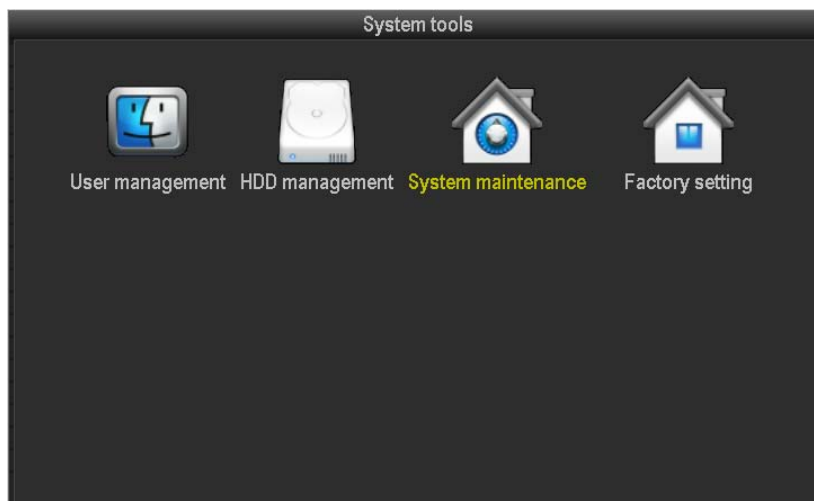
Alarm: "☑" enable alarm, "☐" close alarm.

Buzzer: "☑" start buzzer, "☐" close buzzer.



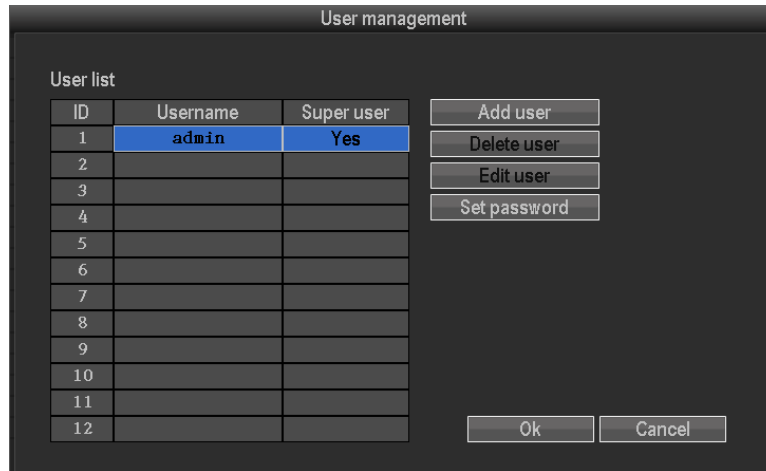
Copy to: select the channel and click "copy to" & "ok " to copy the same setting to other channel. Or user can choose copy to "all" to make all channel in same stetting. Click button "cancel", the setup information will be non-saved but exit.

3.8.4 System tool



In main menu, choose "system tool" and enter its setting interface. It includes four setting: user management, HDD management, system maintenance and factory setting.

3.8.4.1 User Management



Click "user management".

Add user: input a new user name in the edit box and set up the operational authority. Choose in the right check box, " " means the users can use it, " " users can not use it. Click the "set password" to set the new password, or it can be the default password.

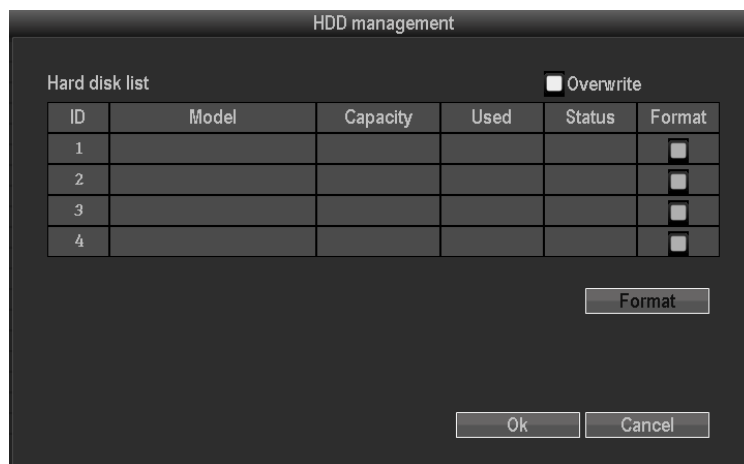
Delete user: delete the selected user (Note: except Admin, no user has the right to set up or delete other users)

Edit user: edit the selected user (Note: except Admin, no user has the right to edit other user permissions)

Set password: setup the user logging password.

After the setting, click "OK" to save and exit, or click "cancel" to exit without saving

3.8.4.2 HDD management

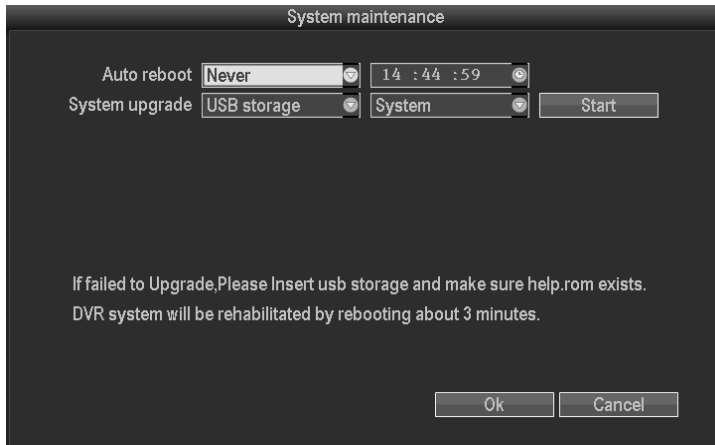


Click "HDD management"

Overwrite: " " earliest recording files will be covered when the disk is full, " " shows not cover.

Format: " " means selected, " " means not selected. When click "format", there will pop up a confirmation. section: click to confirm to begin format, or click cancel to return the main interface.

3.8.4.3 System maintenance



In "management tool", click "system maintenance", enter setting interface.

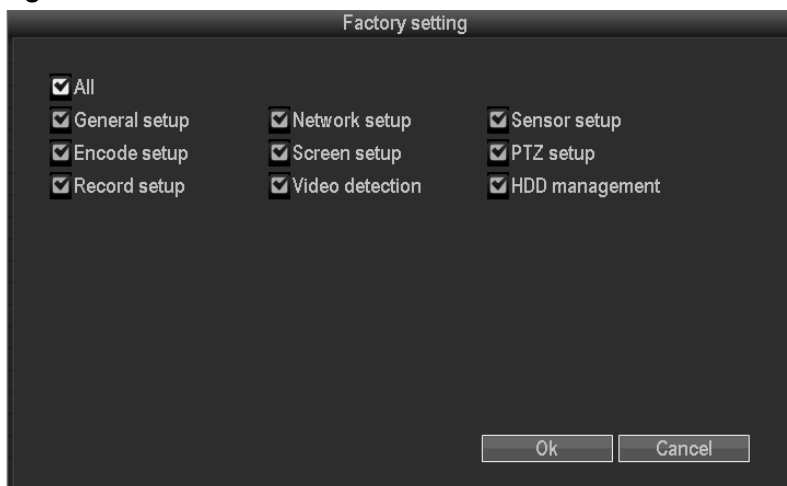
Auto reboot: setting automatic reboot time, it can set "Saturday to Sunday". "Never" means do not reboot automatically.

Firmware upgrade: copy firmware to the root USB disk, insert USB, select the USB storage device, and then click "start" to upgrade. When upgrade is completed, clicks "OK" then system automatically reboot.

Note:

1. Firmware name should be: FWHI1504A_***. Rom (4ch), FWHI1508A_***. Rom (8ch), "****" means software built time: such as FWHI1504A_20110520.rom.
2. During upgrade, do not cut off power to protect from device damage.

3.8.4.4 Factory setting



In "management tool", click "factory setting", enter setting interface

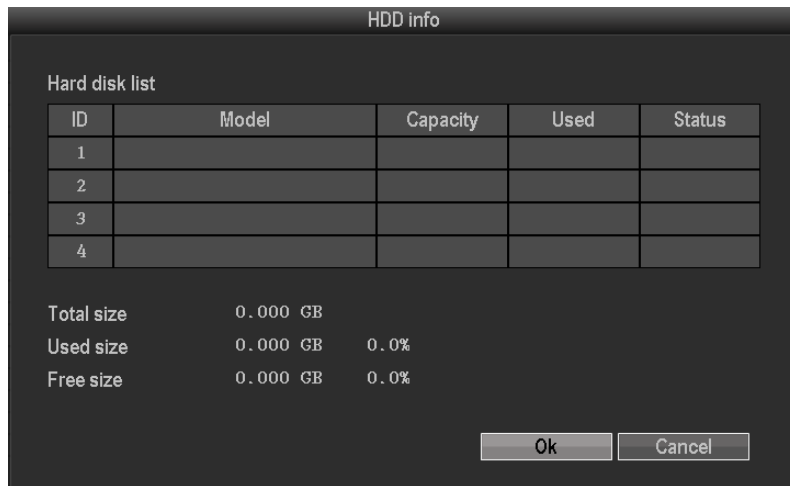
Select terms which need factory setting, click "OK" to save and exit or click "cancel" to exit without saving

Note: After factory setting, all settings will be the initial setting, please use carefully.

3.9 System information

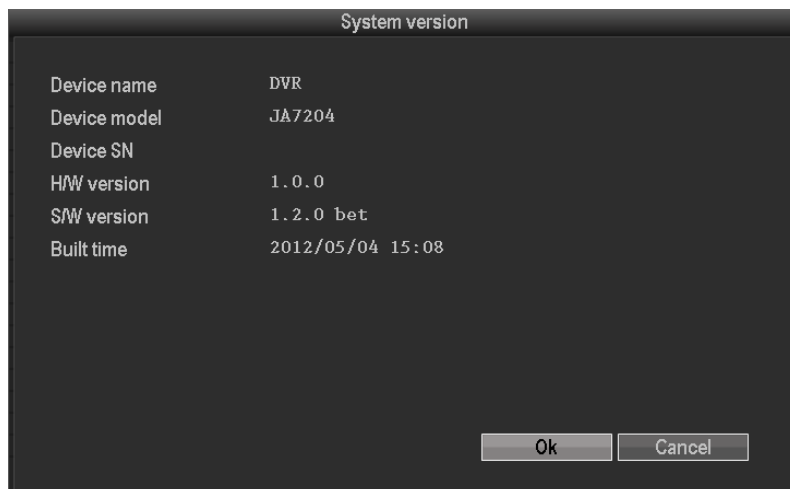
In main menu, click "system info" to enter setting interface. It includes HDD info, system info and log info

3.9.1 HDD information



The listbox shows current HDD status info

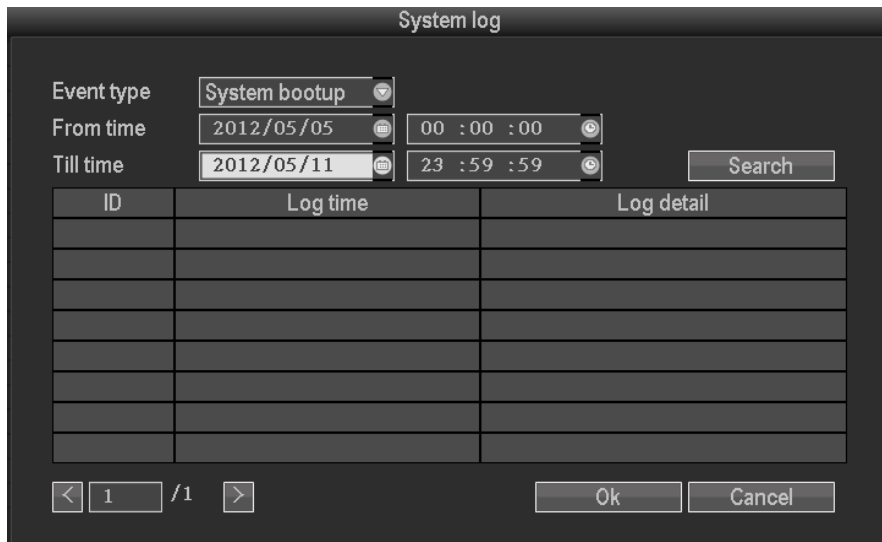
3.9.2 System version



Device name, device model, H/W version, S/W version could be checked here

3.9.3 System log

Choose log type which need to check from listbox, and input log time in the editbox, then click "search", log detail will showed below, you can turn the page by click " previous" and "next", or input target page to turn.



3.10 system logout

In main menu, click "system logout", popup setting interface.

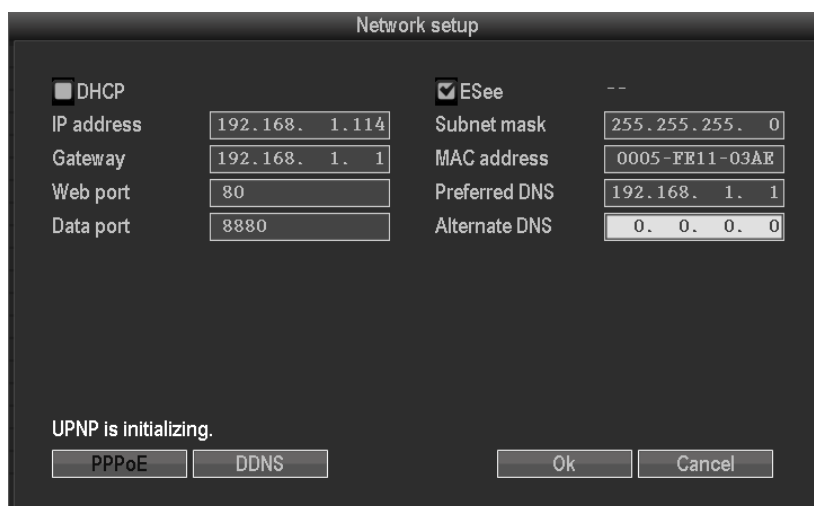


User logout: Logout current user. After logout, if you want to use the device again, need to login.

System reboot: It will reboot when click "OK".

Chapter Four Esee User Manual

1. Connect DVR with network, make sure network working fine
2. Enter router to enable UPNP. As below picture, It is TP-LINK router. But for different router, UPNP might in different place, pls find and enable it.
3. Enter DVR main menu: Click right mouse---setting---network setting, as below:



IP address: Default 192.168.1.114(User input correct IP according IP actual situation, if in 1 network segment, input 192.168.1.114,if in 0 network segment, input 192.168.0.114).If no IP conflict, do not need to change 114 to other IP

Subnet mask: In order to distinguish subnet segment, default 255.255.255.0

Default gateway: Default 192.168.1.1(Change according to actual situation) In router running status can see gateway

DNS address: Default 192.168.1.1, change your network segment DNS. Enter router can check DNS address

After input all info, click to save, then to preview interface, then enter network setting to see ID

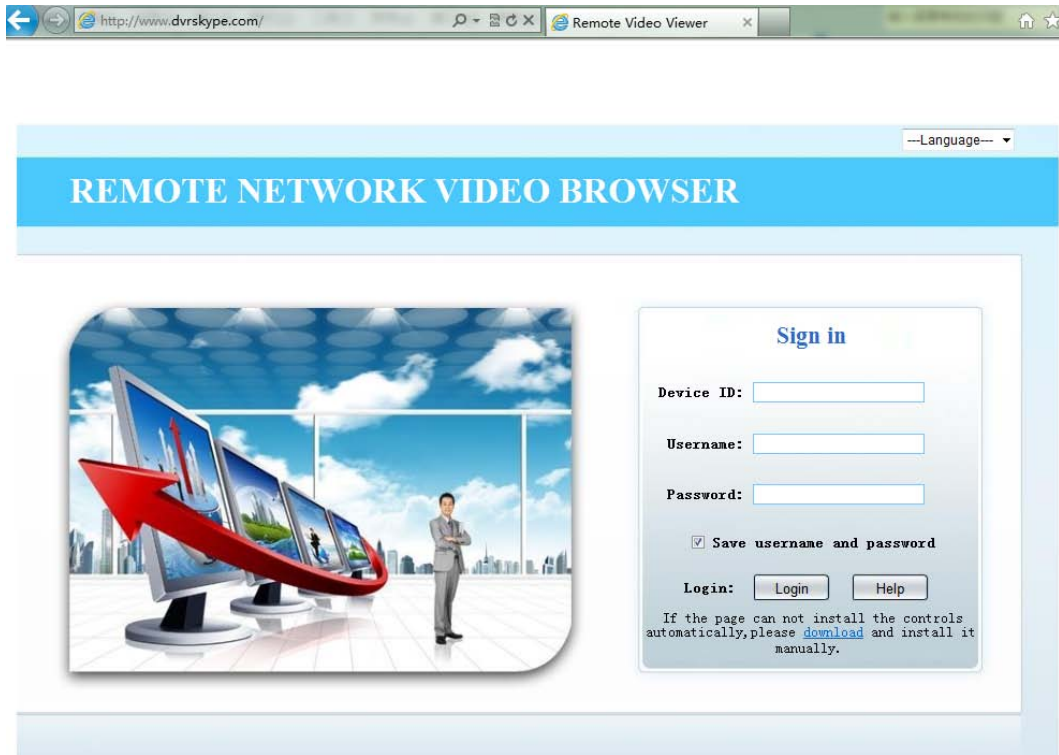
4. For remote view in computer, go to www.dvrskype.com

Do the following setup before you log in Esee on computer.

IE setting, if use it for the first time, the software can't load, then need to make the following setting, Internet options-> safety-Internet-> custom options-> pick Active X and plugin all for opening, click ok.

5. Go to www.dvrskype.com , input Esee ID, user name and password, this user name and password is same with DVR user name and password

Note: Default user name: admin Default password: 111111.



1.1 Remote Video Viewer


After connecting, remote video viewer includes: preview window, PTZ control, preview mode, stream option, channel on/off, setting, configuration, playback, user logout, as below:



1-1

Open preview: In preview window, click left mouse, choose target channel, (If channel frame is red, means select). In channel on/off table, click left mouse, can open or close that channel video, such as:

 on;  off

Preview mode: In preview mode switch table, can click  to choose mode, or double click channel to single channel preview mode, or switch to multi-channel mode.



Lifetime Customer Support

Informative Knowledge Base at kb.zmodo.com

24/7 Live Support on www.zmodo.com